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ASSOCIATION OF TOTAL SHAREHOLDER RETURN WITH OTHER VALUE BASED MEASURES OF FINANCIAL PERFORMANCE: EVIDENCE FROM INDIAN BANKING SECTOR

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Abstracts
Purpose- *The purpose of this paper is to examine the relationship between total shareholder return (TSR) and other value based measures like created shareholder value (CSV), market value added (MVA), and economic profit (EP) in Indian banking sector and provide empirical evidences.*

Design/methodology/approach- *The paper uses a sample of 21 listed Indian banks segregated into 10 public sector banks and 11 private sector banks. The study period ranges from year 200-01 to 2009-10. Pooled ordinary least square regression is used to test the relationship between the variables in question.*

Findings- *The results reveal that CSV, EP individually explain the variation in TSR of Indian banks. Whereas, MVA as an individual independent variable does not explain variation in TSR of Indian banks. However CSV, MVA and EP jointly explain variation in TSR of Indian banks.*

Research limitations/implications- *The study was specifically restricted to listed banks in India. It did not consider unlisted banks.*

Originality/value- *Author concludes that individual value based measure should not be blindly used while measuring the shareholder value creation by a firm. Rather, a mix of these measures should be used to accurately measure the shareholder value creation.*

Research paper

Keywords: *Total Shareholder Return, measures of financial performance, Indian Banking Sector*

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Introduction

It is commonly accepted in the finance literature that the primary goal of the company is to maximize the wealth of its shareholders. Shareholder wealth maximization reflects the opportunity cost and thus reflects the true economic performance of the company which is not reflected in the traditional accounting measures. Rappaport (1986), defined shareholder value as as "The total economic value of an equity." This value of the Company is known as the corporate value while the value of the equity portion is named shareholder value". The value of a company can be represented in the form of an equation as given below:

Corporate Value = [Value of Debt +Shareholder Value].
From the above formula, Shareholder value can be calculated as
Shareholder Value = Corporate Value- Value of Debt

Dalborg (1999) indicated that value is created when the return to shareholders, in dividend and share price increases, exceed the risk-adjusted rate of return required in the stock market (the cost of capital).
Different measures have been developed by academicians and practitioner to measure the wealth of shareholders. These measures are usually known as value based measures and could be classified as Economic Value Added, (EVA), Market Value Added (MVA), Created Shareholder Value (CSV), Total Shareholder Return (TSR), Economic Profit (EP), Cash Value Added (CVA), Shareholder Value Added (SVA), Cash flow Return on Investment (CFROI) etc.

The basic objective of this paper is to empirically examine the relationship between shareholder return and other value based measures like Market Value Added (MVA), Created Shareholder Value (CSV) and in the context of Indian banking sector.

The remainder of the paper is structured as follows. In the second section, literature review has been presented, third section discusses the research method and model specification, fourth section presents the results and analysis and fifth section discusses the implications and conclusion.

Literature Review

Lehn and Makhija (1997) conducted a study and found that Shareholder Returns (SR) over a ten –year period were highly correlated with average EVA over the period than with the average of ROA, ROS, and ROE. Bao and Bao taking the sample of 166 US firms found that value added is a significant predictor of SR and its explanatory power is higher than that of earnings. Dodd and Chen (1996) found that Operating Income (OI), Residual Income (RI), and EVA have information content in terms of the value - relevance. They found that Operating Income used to have higher explanatory power than that of EVA in explaining value. Biddle et al. (1997) investigated an explanatory power of EVA, accrual earnings, RI and CFO on market adjusted returns (MAR) ,and found that accrual earnings showed a higher explanatory power compared to other performance measures including EVA. Turvey et al. (2000) examined the relationship between EVA and SR for a sample of 17 publicly traded food companies in Canada and found that there was not a significant relationship between EVA and SR.

Burgman and Clieaf (2012) concluded that "TSR needs to be aligned and evaluated along with other financial and non-financial performance measures to ensure that a positive TSR is consistent with the creation of shareholder value and that a negative TSR is consistent with the destruction of shareholder value." Fernandez (2002) analyzed 28 largest Spanish companies during 1991-1997 and found that relationship between economic profit and shareholder value added and shareholder value creation was weak. He further reported that within the study peiord, in 1993 and 1995, there was a value creation inspite of negative economic profit. Fernandez (2002), in the same research paper by taking the sample of 100 world's largest companies found that correlation between shareholder return and increase in Cash Value Added (CVA) was 1.7%.

Copeland (2002) provided evidence that earnings, EPS growth, EVA, and EVA growth are all uncorrelated with total shareholder returns (TSR). Peterson and Peterson (1996) provided evidence that EVA type measures do not provide much more information than stock prices. Stark and Thomas (1998) examined the UK market and concluded that the relationship between RI and market value is by no means perfect

Ramana (2005) empirically investigated the relationship between MVA and EVA of Indian companies. The study indicated that there is no strong evidence to support Stern Stewart's claim that EVA is superior to the traditional performance measures in its association with MVA. It also indicated that PAT is a relatively better explanatory variable to the change in MVA. Singh (2005) tested the robustness of new tools of shareholder wealth measurement-EVA and MVA taking a sample of 28 Indian banks over a five year period from 1999- 2003. He found that in India, EVA did not happen to be a

better wealth measurement tool as compared to traditional performance measures. But he found significant statistical relationship between EVA and MVA.

Majority of the studies conducted so fat focus on the relationship between EVA and other traditonal measures like ROE, ROA, EPS, NOPAT etc. Studinng aimed at examining the relationship between total shareholder return, usually referred to as shareholder return and other value based measures like MVA, EP and CSV are not available in existing literature as per our best knowledge. In this sense, this study will further the literature by empirically examining the relationship between TSR and other valued based measures using the sample of Indian banks.

Research Method

The study is primarily based on secondary data. Financial data relating to Indian banks were sourced from PROWESS database of The Centre for Monitoring Indian Economy (CMIE). Data relating to the NSE Nifty, the flagship Index of National Stock Exchange (NSE) were taken from offical website of NSE. Data pertaining to weighted average return on central government securities was collected from official website of Reserve Bank of India (RBI). The study covered the period ranging from 2000-01 to 2009-10.

Sample Secltion:

All the Indian public and private sector banks listed on National Stock Exchange (NSE) comprised the population of the study. Out of these listed

banks, 10 public sector banks, and 11 private sector banks were included in the sample considering the availability of the data for the study period.

Research Variables

Total shareholder return refers to the summation of dividend received during the year and difference between the ending price of the stock and the beginning price of the stock, divided by the beginning price of the stock, Put differently, shareholder return indicates the total return accrued to shareholder broken down into dividend yield and capital gains yield. It can be expressed in an equation in following way.

$$TSR_t = \frac{D_t + P_t - P_{t-1}}{P_{t-1}}$$

Where,

TSR_t *= Total shareholder return in period t*

D_t *= Dividend payment*

P_t *= Price of the stock at the end of period t*

P_{t-1} *= Price of the stock at the end of period t-1*

Economioc Profit indicates the difference between the return on equity and cost of equity multiplied by the book value of equity. It thus gives an idea as to how much excess return company has generated over and above the minimum required return, also called cost of equity.

EP= Equity book value X (ROE- Ke)

Marte Value Added refers to the value added over and above the book value of the company' asset. Market Value added is considered to be the most significant measures of value creation from outsiders' perspective as it takes into account the market value of the company's stock as shown in stock market.

It can be calculated as follows:

Market Value Added = Market value of equity- Book value of equity.

Created Shareholder Value:

According to Fernandez (2002), a company creates value for the shareholders when shareholder return exceeds the shareholder cost (required return to equity). In other words, the company creates value in one year when it outperforms expectations.

Created Shareholder Value = Equity Market Value X (Shareholder return-Ke)

Where a shareholder return is calculated as the increase in the share's price plus dividends, rights and other payments (discount on pare value divided by, special payments,) divided by the share's price at the start of the year (Fernandez, 2000).

Ke represents the required return to equity. It is the return that shareholder expects to obtain in order to feel sufficiently remunerated. (Fernandez, 2002).

In this paper, Ke has been calculated by using the much celebrated Captial Asset Pricing Model (CAPM) developed by Sharpe (1964) and Linter (1965). According to CAPM, cost of equity could ne calculated as follows:

Ke = Risk-free rate + Beta of a Security (Return on market portfolio-Risk-free rate)

Hypotheses of the study

In order to empirically examine the relationship between TSR versus value based measures like CSV. EP and MA following hypotheses were tested.

H1: There is a significant relationship between TSR and CSV

H2: There is a significant relationship between TSR and MVA

H3: There is a significant relationship between TSR and EP.

H4: There is a significant relationship between TSR and Value based measures.

Model Specification

Following simple regression models were tested to examine the relationship between TSR and other value based measures.

$TSR_{it} = \beta_0 + \beta_1 CSV_{it}$

$TSR_{it} = \beta_0 + \beta_1 MVA_{it}$

$TSR_{it} = \beta_0 + \beta_1 EP_{it}$

$TSR_{it} = \beta_0 + \beta_1 CSV_{it} + \beta_2 MVA_{it} + \beta_3 EP_{it}$

Where: TSR_{it} represents TSR for the firm in in period t; $CSV_{it,}$ amount of CSV of firm I in period t and EP $it_{,}$ amount of EP of firm I in period t.

Results and discussions

Table 13 provides a summary of descriptive statistics of TSR and other explanatory variables used in the study. It is evident from the table that CSV and MVA have positive mean values where as EP has negative mean value. CSV has Rs. 693823.03 million as mean value of Indian banks where as mean value of MVA is Rs. 35085.096 million both implying positive shareholder value creation. On the contrary EVA has Rs. -750133.27 million as mean value implying destructions in the wealth of shareholders.

Table 1. *Descriptive Statistics*

	Mean	*Std. Deviation*	*N*
Shareholder Return	*46.207140*	*84.9218936*	*210*
Created Shareholder Value (RsMillion)	*693823.026409*	*4197725.5893954*	*210*
Market Value Added(RsMillion)	*35085.095667*	*109871.0981901*	*210*
Economic Profit (RsMillion)	*-750133.271544*	*7032546.3755983*	*210*

In order to test the hypotheses one to three simple linear regression analysis was used. To test fourth hypothesis multiple regression analysis was used. SPSS software was used to analyze the regression models. The results of the SPSS outputs pertaining to theses hypotheses are shown and discussed below.

Table 2 reports the results of linear regression performed between TSR and CSV. It is quite evident from the table that CSV explains 4% variation in TSR (R^2 = 0.04). There does not exist the problem of autocorreation as values are found to be independent (DW= 2.42).

Table 2. *Model Summary*[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.200[a]	.040	.036	83.4001216	2.429

a. Predictors: (Constant), Created Shareholder Value(Rs. Millions)

b. Dependent Variable: Shareholder Return

Table 3 reports the results of F test indicating the fitness of the model. It is quite evident from the table that model is best fitted. (F=8.697, p<0.05).

Table 3. *ANOVA*[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60490.457	1	60490.457	8.697	.004[b]
	Residual	1446760.697	208	6955.580		
	Total	1507251.155	209			

a. Dependent Variable: Shareholder Return

b. Predictors: (Constant), Created Shareholder Value(Rs. Million)

Table 4 reports the results of the statistical relationship between CSV and TSR. Results show that CSV is statistically significantly related with TSR. (t=2.949, p=<0.05). The correlation between CSV and TSR is also statistically significantly positive (r =0.2, p<0.05). This implies that the CSV statistically significant predictor of TSR. I

Table 4. *Coefficients*[a]

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	*Std. Error*	*Beta*			*Tolerance*	*VIF*
1	*(Constant)*	*43.395*	*5.834*		*7.439*	*.000*		
	Created Shareholder Value (Rs Million)	*4.053E-006*	*.000*	*.200*	*2.949*	*.004*	*1.000*	*1.000*

a. Dependent Variable: Shareholder Return

Regression results of relationship between MVA and TSR indicate that there is statistically significant positive correlation between MVA and TSR (r= 0.134, p<0.05). Table 6 indicates the results of the regression model. It is evident from the table that 1.8% variation in TSR is explained by MVA. (R^2 = 0.018). Also, it is evident from the table 6 that there is no problem of autocorrelation. (DW=2.35). In table 8 results of coefficients relating to TSR and MVA are presented. They suggest that MVA and TSR are not statistically significantly related (t=1. 950, p>0.05).

Table 5. *Model Summary*[b]

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	*.134*[a]	*.018*	*.013*	*84.3585750*	*2.350*

a. Predictors: (Constant), Market Value Added (Rs. Million)

b. Dependent Variable: Shareholder Return

Table 6. ANOVA[a]

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1	*Regression*	*27046.366*	*1*	*27046.366*	*3.801*	*.053*[b]
	Residual	*1480204.788*	*208*	*7116.369*		

Total	1507251.155	209			

a. Dependent Variable: Shareholder Return

b. Predictors: (Constant), Market Value Added (Rs. Million)

Table 7. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	42.575	6.112		6.965	.000		
Market Value Added (RsMillion)	.000	.000	.134	1.950	.053	1.000	1.000

a. Dependent Variable: Shareholder Return

Regression results of relationship between TSR and EP are presented in Table 10,11 and 12. As shown in table10, EP explains 7.4% variation in TSR with R^2 of 0.074. As shown in table 10, there is no problem of autocorrelation in the model (DW=2.356).The regression model is statistically good fit between TSR and EP. (F= 19.649, p<0.01, see table 11). It is evident from table 12 that TSR and EP are statistically significantly related (t= -4.080, p<0.01).

Table 8. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.272[a]	.074	.070	81.9106851	2.356

a. Predictors: (Constant), Economic Profit (Rs. Million)

b. Dependent Variable: Shareholder Return

Table 9. *ANOVA*[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111704.205	1	111704.205	16.649	.000[b]
	Residual	1395546.949	208	6709.360		
	Total	1507251.155	209			

a. Dependent Variable: Shareholder Return

b. Predictors: (Constant), Economic Profit (Rs. Million)

Table 10. *Coefficients*[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	43.741	5.685		7.695	.000		
	Economic Profit (RsMillion)	-3.287E-006	.000	-.272	-4.080	.000	1.000	1.000

a. Dependent Variable: Shareholder Return

The results of multiple regression between TSR as a dependent variable and CSV< MVA and EP as an independent variables are reported in table 14,16,17 & 18. Table 14 shows the results of correlation between TSR and a set of independent individual variables. It's evident from the table 14 that individually CSV, MVA and EP have statistically significant correlation with TSR with r being 0.2,0.134 and -0.272 respectively. Where as the joint correlation of a set of independent variables with TSRs is 0.367. (Table 16). CSV, MVA and EP jointly explain 13.5 variation in TSR with R^2 *of 0.135. The multiple regression model is found to be best fit. (*$F= 10.717$, $p<0.01$, *see table 17).*

Table 11. Correlations

		Shareholder Return	Created Shareholder Value (RsMillion)	Market Value Added (RsMillion)	Economic Profit (RsMillion)
Pearson Correlation	Shareholder Return	1.000	.200	.134	-.272
	Created Shareholder Value (Rs. Million)	.200	1.000	.359	.043
	Market Value Added (Rs. Million)	.134	.359	1.000	-.541
	Economic Profit (Rs. Million)	-.272	.043	-.541	1.000
Sig. (1-tailed)	Shareholder Return	.	.002	.026	.000
	Created Shareholder Value (Rs.Million)	.002	.	.000	.269
	Market Value Added (Rs. Million)	.026	.000	.	.000
	Economic Profit (Rs. Million)	.000	.269	.000	.
N	Shareholder Return	210	210	210	210
	Created Shareholder Value(Rs. Million)	210	210	210	210
	Market Value Added (Rs Million)	210	210	210	210
	Economic Profit (Rs. Million)	210	210	210	210

Table 12. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.367[a]	.135	.122	79.5546334	2.354

a. Predictors: (Constant), Economic Profit (Rs. Million), Created Shareholder Value (Rs. Million), Market Value Add ed (Rs. Million)

b. Dependent Variable: Shareholder Return

Table 13. *ANOVA*[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	203489.578	3	67829.859	10.717	.000[b]
	Residual	1303761.576	206	6328.940		
	Total	1507251.155	209			

a. Dependent Variable: Shareholder Return

b. Predictors: (Constant), Economic Profit (Rs. Million), Created Shareholder Value (Rs. Million), Market Value Added (Rs. Million)

Table 14. *Coefficients*[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	43.488	5.783		7.520	.000		
Created Shareholder Value (Rs. Million)	5.599E-006	.000	.277	3.800	.000	.792	1.263
Market Value Added (Rs. Million)	.000	.000	-.168	-1.945	.053	.561	1.782
Economic Profit (Rs. Million)	-4.529E-006	.000	-.375	-4.641	.000	.643	1.555

a. Dependent Variable: Shareholder Return

Results of Hypotheses Testing

This section discusses the results of hypotheses tested in the study. It is evident from the results that CSV and TSR are statistically significantly related.(Acceptance of H_1). Results also prove that EP is also statistically significantly related to TSR. (Acceptance of $H_{3)}$. The results indicate that MVA is not statistically significantly related to TSR resulting into the rejection of H_2. CSV, MVA and EP are jointly found to be statistically significant while explaining variation in TSR (Acceptance of H_{4}).

Conclusion

There has been a numerous studies conducted with reference to value based measures. The majority of the studies have been hovering around the relationship between Economic Value Added (EVA) and traditional measures like ROE (Return on Equity), NOPAT, (Net Operating Profit After Tax) Very few studies have been conducted to examine the relationship between value based measures like CSV,MVA and EP. This paper has explored the relationship among these value based measures and has thrown lights regarding the interrelationship among these measures.

The results indicate that CSV and EP are individually significantly associated with the TSR implying that change in CSV and EP indicate a change in TSR. The relationship between MVA and TSR was not found to be statistically significant. However, taking together all three CSV, MVA and EP were found to be statistically significant with TSR implies that these measures taken together do explain the change in TSR. The study offers several implications in applying the value based measures in the context of Indian banking sector. As the study found that CSV and TSR statistically corre-

lated, it implies that managers of Indian banks should strive to earn higher returns for shareholder over and above the cost of equity to magnify total shareholder return. Another implication drawn from the study is that an excess of market capitalization over book value of equity does not necessarily result into maximizing total shareholder return as illustrated by statistically insignificant correlation between MVA and TSR.

The study was primarily restricted to Banking Sector of India. Moreover, it only considered the banks, which were listed on the recognized national stock exchange. To explore the relationship between value based measures further, studies in other sectors could also be carried out.

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